Idaho State University

GREAT IDEAS IN TEACHING

MINI CONFERENCE

NOVEMBER 7 | 12PM - 5PM
POND STUDENT UNION BUILDING

Experiential Training Through Case Studies for Technology Students

Presented by Mackenzie Gorham

Summer 2025 Special Topics Course

- Nuclear Emergency Management
  - Jointly taught by myself (Nuclear Operations Technology) and Laurie Holien (Homeland Security and Emergency Management)
- Case Study using the Fukushima Daichi NPP accident following the damage to the plant caused by the 3/11 Great Tohuko earthquake and subsequent tsunami
  - Field Work on-site in Fukushima Prefecture
  - Local cultural immersion
  - Incredibly unique perspective on a highly technical

Key Benefits of the Experiential Format

- **Widening horizons**
  - First time out-of-state for multiple students
  - High impact experiences deepen synthesization of knowledge
- **Self-directed learning**
  - Case study format gave students freedom to explore topics and seek deeper answers
  - Interdisciplinary teams prompted broader questioning and application from students new to case studies, research, and/or specific technical content areas

Cultural Immersion

- **Structured**
  Local and national museums, local speakers,
- **Unstructured**
  Free-time integrated throughout schedule, in different local areas for students to explore

Students and instructors pose on the shinkansen platform before the day trip to Hiroshima.

Personal Stories and Impacts

Our local guides and translators all had experiences from living through the events of the tsunami.

Small local museums

The ‘flavor’ and presentation that local communities chose to emphasize in their memorials and explanations of the events leading to and aftermath of the accident had a huge impact on our students ability to contextualize their case studies.

Udeko Elementary School Museum

Students, instructors, and local guides stand on the New Sea Wall across the street from Udeko Elementary School

Students and instructors stand in front of the 4 damaged reactor units at Fukushima Daichi

Technical Content

- Nuclear Accident Analysis
- Environmental Radiation Contamination
- Emergency Management and Response

Technical Content

- Undergraduate and graduate level depth
- Used team structures to provide additional leadership tasks for graduates
  - Also added depth of interdisciplinary coordination among students

Radiation safety training and environmental monitoring experience

Fukushima Prefecture Surveys

Students Sarah Faulk and Addy Nielsen perform environmental surveys in a copse of trees outside our hotel

Planning and Logistics

- Group travel
  - Airfare
  - Hotels
- Class fees
- Japanese hosts helped immensely

Big thanks to Real Fukushima Tours for helping make the field work possible!

Concluding thoughts

Cultural immersion widened horizons beyond solely the technical content of the course.

Case study format gave students the freedom to explore topics that allowed self-directed learning and seek deeper answers

Interdisciplinary teams provided insights from varied backgrounds as individuals synthesized new information